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Bot wh the Bequest of Hon Wm Prescott of Boston

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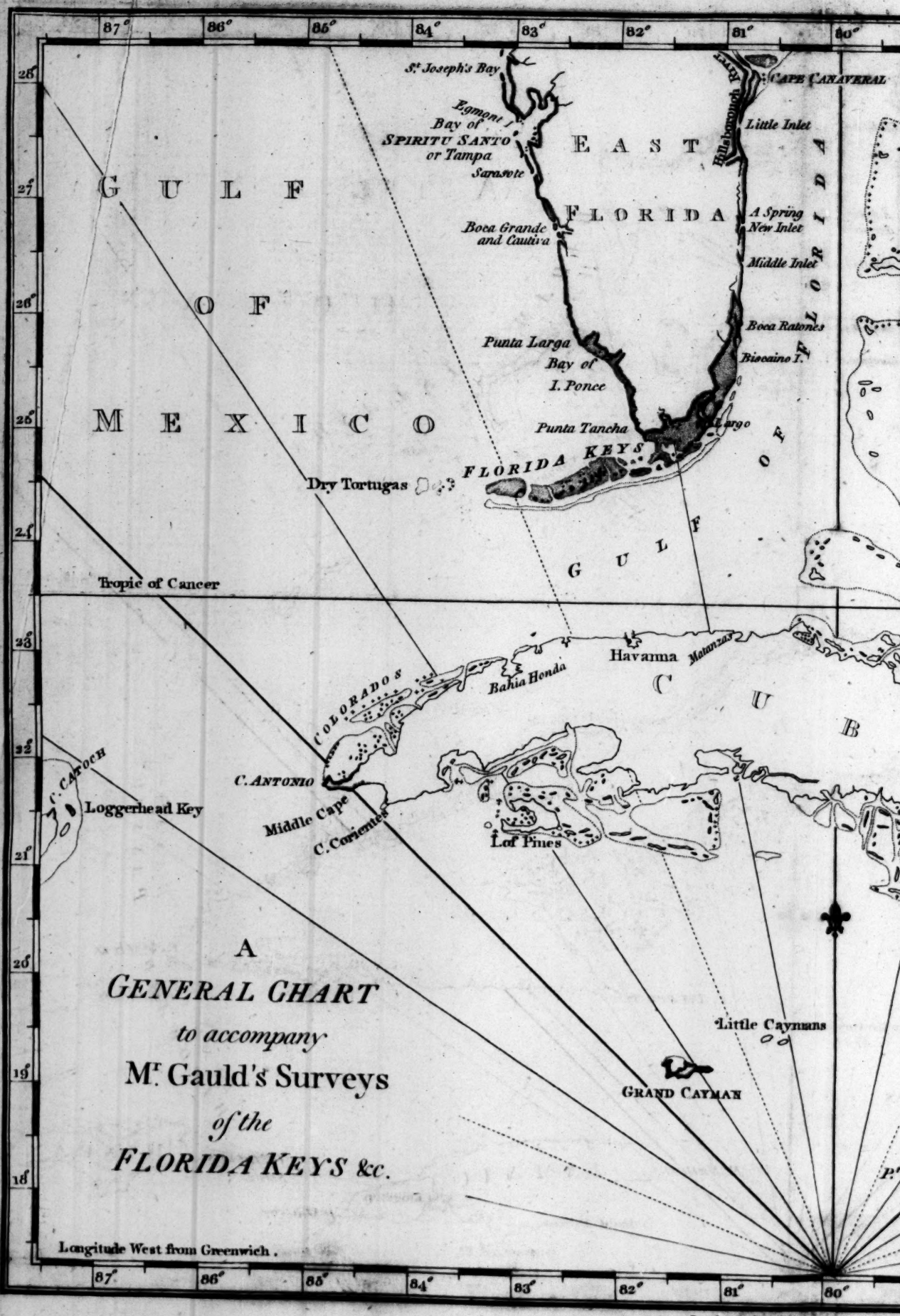
AN

ACCOUNT

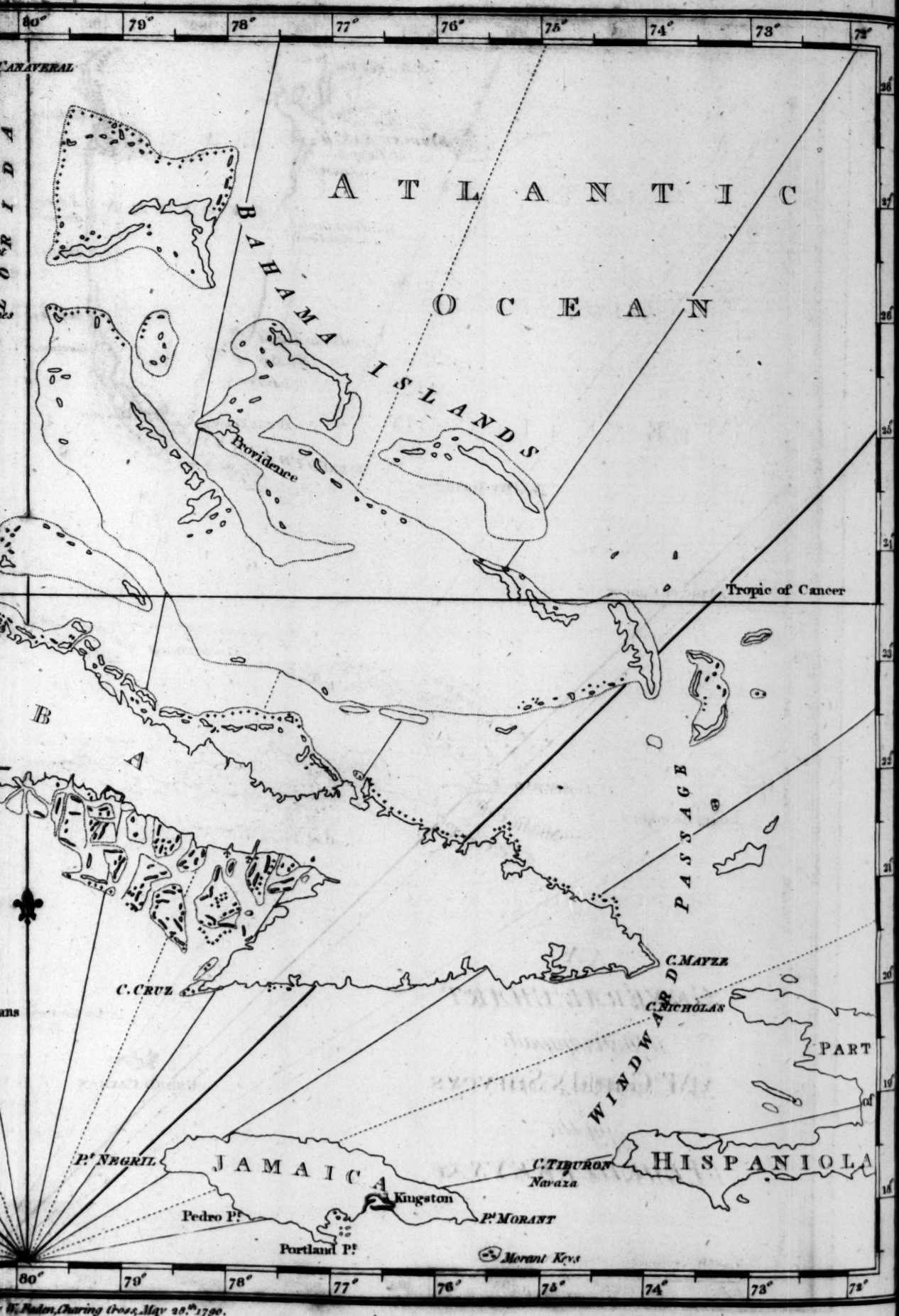
OF THE

SURVEYS OF FLORIDA,

&c.



London, Published by W. Faden, Charing



W. Faden, Charing Cross, May 28th 1790.

2.

Rec^d May 1, 1845
Bought with the Bequest of Ben Wm Prescott of Boston

AN

ACCOUNT

OF

The SURVEYS of FLORIDA, &c.

WITH

DIRECTIONS FOR SAILING

FROM

JAMAICA or the WEST INDIES,

BY THE

WEST END OF CUBA, AND THROUGH THE GULPH OF FLORIDA.

To accompany Mr. GAULD'S CHARTS.

LONDON;

Publiſhed by W. FADEN, GEOGRAPHER to the KING, CHARING CROSS; to be ſold by him; and by Meſſrs. MOUNT and PAGE, Tower Hill.

M.DCC.XC.

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ADVERTISEMENT.

IN several of the first Impressions of the Charts, the name of the Little Harbour of Boca Chica was not marked; but it is particularly described in these Directions (see page 14) so that it cannot be mistaken.

The Three small Sandy Kays on the Reef, S. S. E. from Boca Chica, in some of the Charts were titled Cayos Sombreros; but this has since been also corrected. Their proper name is Cayos Samboes, being directly opposite to the Island of Cayo Samba; and Cayo Sombrero is about thirteen Leagues to the Eastward of them.

Page 7, in the note; for Exposition du Calcul, read Calcul Astronomique.

If any other omission or mistake should be discovered, either in the Charts or Directions, &c. upon the Publisher's being acquainted thereof by a Letter post paid; if the same is well authenticated, it shall be corrected.

N. B. Mr. Gauld placed a large Pole upon the westernmost Sandy Kay on the Reef and another upon Looe Kay in 1774, but they could not remain long there. If some Mangrove Bushes were planted upon all the Kays on the Reef, it might be of considerable use to our Navigation.*

* *See them enumerated, page 16.*

INTRODUCTION.

OR,

A CONCISE ACCOUNT

OF

FLORIDA,

FOR THE SPACE OF

Two Hundred and Seventy Years.

IN the year 1512 Juan Ponce de Leon diſcovered the coaſt of Florida, twenty years after Columbus had diſcovered the Bahama and Weſt-India Iſlands *; and about fifteen years after Sebaſtian Cabot had ſailed along the coaſt of North America, from the Latitude of 56° to ſome part of that country which, he ſays, was afterwards called Florida†.

From 1512 ſeveral Spaniſh Adventurers viſited Florida: Charles the Vth had always a Patent ready for any Deſperado who offered his ſervices in diſcovering or conquering new countries in the weſtern world, and particularly in Florida. To this it ſeems, His Majeſty's title was undoubtedly adequate, being derived from the well known Bull of His Holineſs the Pope!

Francis de Geray is ſaid to have been the firſt who obtained the Patent of Florida; which it ſeems was not quite agreeable to Hernando Cortes, who was then employed in the conqueſt of Mexico. But Geray did not live to take poſſeſſion of his Grant of Florida‡; he was ſoon ſucceeded by Luke Vaſquez de Allyon, who viſited that country in 1520 and 1524. The next Patentee and Adventurer was Pamphilo de Narvaez about 1528; and after him Ferdinando Soto, who traverſed Florida from the year 1539 to 1542, and

* Columbus's Life, Herrera's Hiſt. &c. † Hakluyt's Voyages. ‡ Ogilvy's Hiſt. of America.

ended his days on the river Miſſiſſippi, where he obtained a watery grave; as his Predeceſſor Narvaez had done before him on that coaſt‡.

No permanent ſettlement however was attempted in that country till after the year 1562; when the French Proteſtants endeavoured to ſecure a retreat for themſelves, about the Northern boundary of the preſent Florida, or what was afterwards titled Carolina; for the votaries of Religion as well as vice were, it ſeems, equally ſerviceable in peopling North America§.

But as ſoon as the Court of Spain had been informed of this intended French ſettlement, Don Pedro Menendez or Melendez de Aviles was ſent with a conſiderable force to that country, where he arrived in 1565. How he treated the remains of this miſerable and unfortunate new Colony we forbear to mention; but he eſtabliſhed the firſt Spaniſh ſettlement at St. Auguſtin, and may truly be ſaid to have founded a City in blood *!

Melendez, it ſeems, on this occaſion obtained a Grant from Philip the IId of all Florida; which was then conſidered to extend from the river of Palms on the Weſt ſide of the Gulph of Mexico, Northward to the coaſt of Bacalaos or Newfoundland. In this Patent ſeveral peculiar privileges were granted to Melendez; in conſideration whereof he was to have performed ſome ſingular ſervices to Spain.

In three years he was to make an exact Chart of Florida, to be put into the hands of all their American Pilots; in order to prevent the ſhipwrecks they were ſo often expoſed to, on account of their being unacquainted with that coaſt. This very neceſſary ſurvey however, has been reſerved, it ſeems, for a later age; and notwithſtanding the propoſitions in the Patent above mentioned, no ſurvey of Florida was made by Spain.

Even the nautical obſervations of Dom. Gonzales Carranza the principal Pilot of their Flota, made about, or rather before the year 1718, remained in manuſcript till they were publiſhed at London in 1740.

Tho' the enormous boundaries which Spain at firſt aſſigned to Florida were greatly reduced; on the one ſide by the Engliſh in Carolina, and on the other by the French in Louiſiana; yet they retained poſſeſſion of a Territory under that title, which extended from the river St. Juan on the North, to the Rio Perdido on the Weſt, *till the ever memorable Peace of* 1763; when all the American Territories claimed by France and Spain to the Eaſtward of the river Miſſiſſippi, were then ceded to Great Britain.

‡ See Roberts's Account of the firſt diſcovery of Florida, &c. publiſhed by Jefferys in 1763.

§ The Calviniſts in New England, and Dutch in New York; the Quakers in Penſylvania, and Engliſh Catholicks in Maryland, &c.

* See Charlevoix Hiſtoire de Nouvelle France.

From

From 1763, Britain remained in peaceable poſſeſſion of both the Floridas till the year 1778; when Weſt Florida was attacked, firſt by a party of the Americans, who were twice defeated by the Loyal Inhabitants, and obliged to take refuge in the Spaniſh Dominions. But ſoon after, the principal part of the Spaniſh Forces both by Sea and Land, that could be collected in that quarter of the Globe, having at laſt been joined by thoſe of France and ſome of the revolted Americans; after a ſpirited conteſt for near three years, they got poſſeſſion of Weſt Florida in 1781.

This valuable Province was at that time defended only by a handful of Britiſh and Provincial Troops, with a few Loyal Inhabitants of remarkable fidelity; who at the earneſt requeſt of the Governor and the General Officer commanding there, joined His Majeſty's Forces, did duty, and ſhared the ſame fate with them upon every occaſion to the very laſt. But after every poſſible exertion on their part, they were obliged to capitulate; *and in* 1783 *both Floridas were yielded up to Spain without any Equivalent*†.

† The Enemy's forces at the ſiege of Penſacola by ſea, conſiſted of eleven Spaniſh and four French ſhips of the line, two frigates of thirty-ſix guns, three ſloops of war, four gallies with a number of Gun-boats and other armed veſſels. By land they had 7000 Spaniſh and 3000 French troops, beſides the Americans and Indians, with an immenſe train of artillery: and though the whole of the Britiſh in garriſon, both army and navy, volunteers and all did not exceed 1000 men; yet they ſtood a ſiege of two full calendar months.

Extract of Mr. Gauld's journal in manuſcript; who ſerved as a volunteer during the ſiege, often aſſiſted in the Engineer's department, and was of conſiderable ſervice on many occaſions, during the war. From his knowledge both of the French and Spaniſh languages, he had been employed by the General in tranſlating and interpreting all the letters and papers relative to Public affairs, &c. as appears by a letter, of General Campbell's to the Secretary of State.

OF THE SURVEYS OF FLORIDA.

DURING the two centuries, or more that Spain was formerly in poſſeſſion of Florida, tho' no actual ſurvey of that country was made by them: yet the Maſters of their little Veſſels who traded from St. Auguſtin to the Havana; as well as thoſe who went from the Havana to catch fiſh among the North Kays, as they uſed to call them, and upon the Weſt coaſt of Eaſt Florida, made ſketches of thoſe Iſlands; which with their own practical knowledge of the coaſt, ſerved in ſome meaſure to direct them in their Navigations. The French Charts and Plans of Florida were generally taken from thoſe ſketches, with the aſſiſtance of a little verbal information, and a great deal of imagination or conjecture.

Even ſo late as the year 1755, when Thomas Lopez and Juan de la Cruz, it ſeems, publiſhed a Marine Map or Chart of the Gulph of Mexico and the Iſles of America, as they have titled it, from the beſt authorities and Aſtronomical obſervations; yet the coaſt of Florida in that publication is a moſt inaccurate performance.

With reſpect to our Engliſh publications prior to the year 1763, we can ſay but little: they were only copied at ſecond hand from bad authorities; and the Right Hon. the Lords Commiſſioners of the Admiralty being ſenſible of this; they reſolved to have an authentic ſurvey made of all our then newly acquired Dominions in that country.

For this purpoſe Mr. George Gauld was recommended and appointed; who embarked on board the Tartar commanded by Sir John Lindſay, in March 1764. The Tartar immediately ſailed for Jamaica to join the Fleet under the command of Sir William Burnaby; and Sir John Lindſay being then appointed Commodore with a broad Pennant to command in the Gulph of Mexico, Mr. Gauld accompanied him to Penſacola, the intended new capital of Weſt Florida, where they arrived in the month of Auguſt. From that time the ſurveys of the Coaſts and Harbours of Weſt Florida, the great Rivers Miſſiſſippi, Mobile, &c. and the Harbours on the weſt coaſt of Eaſt Florida, were carried on by Mr. Gauld with great aſſiduity and attention, 'till the latter end of the year 1771: When Sir George Bridges Rodney, now Lord Rodney, having been appointed to command on the Jamaica Station; His Excellency ordered Mr. Gauld to repair immediately to Kingſton, to make out a complete and correct ſurvey of that Harbour; and as a reaſon for this order, was pleaſed to add, that the Pilots had at one time or other contrived to run every ſhip on the Station aground.

This ſurvey, which is one of the moſt accurate of the kind that has hitherto been made, will no doubt be of conſiderable uſe to our ſhipping; as it has made the

the intricate and extenſive Harbour of Kingſton and Port Royal much better known to our Captains and Maſters in the Royal Navy, as well as to the Pilots on that Station, tho' it has not been publiſhed.

As ſoon as this neceſſary piece of ſervice at Jamaica was finiſhed, Admiral Rodney was pleaſed to ſend Mr. Gauld to ſurvey the Dry Tortugas and Florida Kays, &c. in an armed veſſel commanded by a Lieutenant of the Navy, two Midſhipmen (one of whom had been inſtructed by, and then acted as aſſiſtant to Mr. Gauld) and twenty-five Mariners, with two boats purpoſely fitted out for that ſervice. This, as it now turns out, happens to be the only part of Mr. Gauld's ſeventeen years aſſiduous performances on that coaſt, which can with any propriety or advantage be given to the public.

The importance however of this ſurvey to our Weſt-India Navigation, was not only apparent to Lord Rodney, but likewiſe to ſome of the other Admirals, and Commanders on that Station; and particularly to that brave and diſcerning Officer Commodore Forreſt. We beg leave here to inſert an extract of a letter from that gentleman to Mr. Gauld on this ſubject.

Dated on board the Dunkirk at Port Royal,
the 10th Auguſt 1769.

SIR,

I take this opportunity to inform you of my arrival here, to command the Squadron on this Station. I hope you go on proſperouſly in your ſurveys.

The Dry Tortugas, Martyrs and round Cape Florida, are material to be thoroughly known. If a good Harbour could be found there, it would be of great ſervice.

Until I know what you have done, I cannot pretend to give you any directions; you'll therefore write me by every opportunity, &c. &c.

Wiſhing you health and ſucceſs, I am,

SIR,

Your moſt humble Servant,

A. FORREST*.

Mr. George Gauld,
Surveyor.

* Mr. Gauld's character and abilities were well known to Commodore Forreſt, when he commanded His Majeſty's Ship the Preſton about the year 1759. When this ſhip had been appointed convoy to our trade in the Mediterranean, Mr. Gauld embraced that as the only opportunity he ever had of treading on claſſic ground, and of this voyage he has left a curious account in manuſcript.

From

From the preceding detail it will plainly appear to every one of ſenſe and diſcernment; that the preſent publication, ſelected from the laborious works of a man of ſuch abilities, diligence and integrity; aſſiſted and ſupported as he was by the Admiralty, and employed for ſo many years upon this ſurvey; ought never to be compared with thoſe repeatedly borrowed Productions, which are ſo frequently uſhered into the world, under the title of being, from the *lateſt* and *beſt obſervations*. Though in fact they generally are from no obſervations at all; or from ſuch as are worſe than none, and only ſerve to miſlead the unfortunate man who truſts to them!

OF THE GENERAL CHART.

If ſpecific authorities have ever been thought neceſſary in any work, they ſurely are much more requiſite in the publication of Sea Charts. With reſpect to the preſent Charts of the Tortugas and Florida Kays or Martyrs, we flatter ourſelves it is only neceſſary to aſſure the Public, that they are the genuine works of the late Mr. George Gauld, faithfully copied from the Originals in the Admiralty Office. But as Mr. Gauld had alſo taken an opportunity of ſurveying part of the weſt end of Cuba and the iſland of the Grand Caymans, which are much connected with our navigation, eſpecially from Jamaica; it was thought neceſſary to accompany this publication with a general Chart on a ſmall ſcale; and for this Little Chart therefore we ſhall here give the authorities.

The Weſt Coaſt of Eaſt Florida, as well as all the North Side of the Gulph of Mexico, were carefully ſurveyed by Mr. Gauld, at different times.

In the ſummer of 1765 he made an accurate ſurvey of the Bay of *Spiritu Santo*, which ſoon afterwards appeared in Stork's Hiſtory of Eaſt Florida. How it happened to be publiſhed there we cannot pretend to ſay; but it is the only part of the many ſurreptitious ſketches, which have been pirated from Mr. Gauld's works, that has been literally and pretty correctly copied; tho' there is an error of about 30 miles or more in the Latitude.

The Entrance of this excellent Harbour of *Spiritu Santo*, which has four fathoms on the Barr even at low water, lies in the Latitude of 27° 36′ N. and 83° W. Longitude from the Royal Obſervatory of *Greenwich*. This Longitude was deduced from the Longitude of Penſacola, which is 87° 40′ as it was aſcertained from ſeveral obſervations of the eclipſes of Jupiter's Satellites, by Sir John Lindſay and Dr. Lorimer.

By tracing Mr. Gauld's meaſurements of the coaſt, to the weſtward of the Meridian of Penſacola, as far as New-Orleans, on the river Miſſiſſippi; the Longitude

Longitude nearly agrees with the obſervations of the French Academicians*; who make the Longitude of that City, about 90° weſt from our Meridian of Greenwich. By the ſame ſurveys to the Eaſt and ſouth eaſtward of Penſacola; the Longitudes agree perfectly, with thoſe of the Tortugas and Florida Kays; which were determined by Mr. Gauld and Mr. Payne his Aſſiſtant, from ſimilar obſervations, as ſhall be mentioned in its proper place.

To the ſouthward of *Spiritu Santo*, *Tampa*, or Hillſborough Bay, as we have titled it; tho' Mr. Gauld carefully examined all the Entrances of Boca Seca, Sarſote, Gaſparilla, &c. he found none of more than 8 or 9 feet depth of water on that coaſt; except Boca Grande, or Charlotte Harbour, in Latitude 26° 43′ N. and Longitude 82° 30′ weſt; which has about 15 feet water on the Barr and good anchorage within. About two leagues ſouthward of Charlotte Harbour, is *Boca Cautiva*, or Carlos Bay, which has only 7 feet depth of water; and tho' there appeared ſeveral other little openings, along the coaſt, which is continued in a ſouth-eaſterly direction to *Punta Larga*, they were not thought of conſequence enough to ſpend much time in examining them minutely; and upon a ſcale ſo ſmall as it was neceſſary to aſſign for this General Chart, they could ſcarce have been made viſible.

From Punta Larga, to Punta Tancha, which has generally though erroneouſly been titled *Janche*, or *Yanche*, there is a ſhallow Bay of very little importance, with openings of ſomething like rivers into it; and from Punta Tancha, which is the real ſouth Cape of Florida, eaſtward to Cayo Largo, there are a number of little Iſlands; but the water all round them, ſo ſhallow, that a boat can hardly approach them. It is not yet certain, whether Cayo Largo, is an Iſland, or a peninſula joined to the main land, by a very narrow Iſthmus. It may poſſibly be a peninſula at low tides; and if at other times it is an Iſland, it cannot be of any conſequence, for the riſe of the tide there is ſo ſmall, that nothing but a canoe could paſs through ſuch a channel. With the interior parts of Florida, we have no concern; but the ſhape of the coaſt in this *Chart* from Punta Tancha to Cayo Largo, and from thence northward to Cape Canaveral, is taken from the ſurveys of W. Gerard de Brahm, Eſq; late Surveyor General of the ſouthern diſtrict of North America, and Land-ſurveyor of Eaſt Florida; who in that capacity reſided at St. Auguſtin from 1765 till 1771.

In 1770, Mr. de Brahm, it ſeems, made an excurſion to the ſouthward; he paſſed and repaſſed through the Florida Kays or Martyrs, as Mr. Gauld had done a few months before: when this laſt gentleman made, what he modeſtly ſtiled, an imperfect ſketch of thoſe Iſlands; but this being afterwards corrected, ſerved as the ground-work of his future ſurveys.

* Expoſition du Calcul, par Mr. de le Lande 1762.

The

The Iſland of Cuba, in this General Chart, was copied from a Spaniſh publication, by Don Juan Lopez in 1783§, except a ſmall part on the weſt end, which was ſurveyed by Mr. Gauld, as the Iſland of the Grand Caymans alſo was in 1773, on his way from Jamaica to the Tortugas, &c.

The Bahamas and Weſt India Iſlands, were copied from the common Maps or Charts, with little or no alterations; and we are ſorry to ſay, that no better or more authentic materials could be found.

They are therefore marked only with an outline; but the parts ſhaded are from actual ſurveys.

DIRECTIONS

For ſailing from Jamaica or the Weſt-Indies, by the weſt end of Cuba, and through the Gulph of Florida.

The Latitude of Port Royal in Jamaica, according to the beſt authority†, is 18° N; the Longitude thereof from the Royal Obſervatory of Greenwich, is 76° 45′ 30″ W. and the variation of the Magnetic Needle in the year 1772, was 6° 30′ E. As theſe obſervations may be depended upon, it would be adviſable for every Ship-maſter to take his departure and begin his reckoning immediately from Port Royal. This however is not to prevent him, if he chuſes, to take a ſecond departure from Portland Point, Negril, or from any other remarkable point in the Iſland; but it is then neceſſary to remember, that the beſt ſurveys of Jamaica, it ſeems, differ from each other above twenty miles in the extent of the Iſland‡; and even the Latitude of the principal points of the Iſland, have never been aſcertained from authority.

If we add to this, the uncertainty of taking the bearing of any point of land by the common compaſs, and in the uſual way, eſtimating the diſtance thereof by the eye, there cannot be any great degree of accuracy expected from ſuch obſervations. Yet when no better authority can be had, if the bearing of any known point of land, be taken by an azimuth or amplitude compaſs at two different times, and the ſhip's run by the log between the obſervations be carefully attended to; the diſtance by an eaſy operation may be calculated pretty nearly*.

§ It appears, that Lopez's map of Cuba, is nothing more than what was publiſhed by Mr. Jefferys in 1762, *Hiſpanized*.

† Requiſite tables by the Commiſſioners of Longitude.

‡ Dr. Hunter on the diſeaſes of the army in Jamaica.

* Quere. Would it not be of the utmoſt conſequence to navigation, if any machine could be contrived for the purpoſe of conſtantly meaſuring a ſhip's way tolerably exact? Has any conſiderable premium been ever offered for that purpoſe?

As

As it is always ſatisfactory, and ſome times neceſſary, for the Weſt-India ſhips to make the Iſland of the Grand Caymans; they will ſee by the Charts that the Latitude of this Iſland is from 19° 12′ to 19° 22′ N. Cape Antonio, the weſt point of the Iſland of Cuba, which is the next land they make, is in Latitude 21° 49′ N. and the variation of the compaſs about 8° Eaſt in both places. But it is to be regretted, that neither the Longitude of the Caymans, of Cape Antonio, or of Cape Catoch (though ſo neceſſary to our navigation from the Weſt-Indies) have ever, that we know of, been aſcertained from actual obſervations.

In 1773, Mr. Gauld had not got proper inſtruments for aſcertaining the Longitude with a ſufficient degree of preciſion; but by the next year he had furniſhed himſelf with one of Dollond's beſt Achromatic Teleſcopes, a Sextant with a Micrometer Screw, and a Time-piece by Cumming: the Longitudes and Latitudes of the Tortugas and Florida Kays, &c. may therefore be depended upon.

From the weſt end of Jamaica to the Grand Caymans, the courſe is about W. N. W. and the diſtance fifty-five or fifty-ſix Leagues. But to prevent miſſing the Iſland, it is beſt to ſteer about half a point more northerly per compaſs, till you get to the Latitude of 19° 10′ or 12′. Then due weſt or W. ¼ S. per compaſs, and if it is day-light you cannot miſs ſeeing the Iſland. The eaſt end is rocky and ſhould be avoided, eſpecially in the night time; the beſt anchoring is at the weſt end near the village called the Hogſties, where the water is ſo clear, that you can eaſily ſee where it is moſt proper to drop the anchor: in every thing elſe the plan is far preferable to any verbal inſtructions*.

From the weſt end of the Grand Caymans, if you ſteer N. W. by W. per compaſs, about eighty Leagues diſtance; you will probably fall in with Cape Corientes in Latitude 21° 45′ N. which at firſt looks very like to Cape Antonio. But Cape Corientes has no cabbage trees upon it, which upon Cape Antonio are very viſible; and in proceeding to the northweſtward you will ſoon ſee the land on the oppoſite ſide of a deep Bay, to the weſtward of this Cape. If you ſhould unluckily fall in with land conſiderably to the ſouthward of this Latitude, it muſt be either the Jardines, or more probably the Iſle of Pines, about 21° 25′ N. and twenty-five Leagues eaſtward of Cape Corientes. Cape Antonio is twelve or thirteen Leagues to the weſtward of Cape Corientes, and the courſe is W. by S. per compaſs, that you may keep clear of the Middle Cape in Latitude 21° 44′.

Cape Catoch on the north coaſt of Yucatan is low land, but Logerhead Kay, which is generally miſtaken for the Cape, is a high bluff about four Leagues to

* N. B. The Latitude of the S. W. point of the Caymans was aſcertained the 4th of May 1773, by the obſervations of Mr. Gauld, Mr. Payne and Captain Philips, all agreeing to a Mile; yet ſome very good obſervers make that Iſland five or ſix Miles more northerly: which probably muſt be occaſioned by the difference of their inſtruments; for the ſame difference alſo appears at Cape Corientes and Cape Antonio.

the eaſtward of it, in Latitude 21° 38′ N. as it was carefully aſcertained by obſervation in 1775, by Mr. Charles Roberts, Maſter in the Royal Navy; an experienced Officer and well acquainted with the navigation of the Weſt-Indies.

The veſſels from the Bay of Honduras generally make Logerhead Kay, or Cayo Muheres which lies a little to the ſouthward of it, before they ſhape their courſe to the northward of Cuba and through the Gulph of Florida. Their firſt object then, as well as thoſe who come from the Weſt Indies round Cape Antonio, is to keep clear of the Colorado rocks, the moſt northerly part of which lies about the Latitude of 22° 30′ N. If the Weſt India ſhips therefore ſteer from Cape Antonio N. by E. per compaſs, and thoſe from the Bay N. E. from Logerhead Kay, till they get into the Latitude of from 23° to 24° N. they will have nothing to fear on that account; and as the winds there are generally from the Eaſtward, it is neceſſary for them to hold every inch they can with ſafety. But the maſters of thoſe veſſels, who after paſſing Cape Antonio have ſteered to the weſtward of north; when they came upon the other tack in ſtanding to the ſouthward, from the uncertainty of the currents, have ſometimes had the misfortune of falling in among the Colorados, which they ſo anxiouſly endeavoured to avoid.

The Iſland of Cuba being high land and in many places diſtinctly marked, has generally proved an inducement for our navigators to keep along that ſhore, till they get as far to the Eaſtward as the Metanzas; and then to ſteer N. N. E. for the Florida Gulph. But on this courſe they often meet with a lee current againſt them, eſpecially to the weſtward of Bahia Honda, which may lengthen their paſſage ſome weeks. In croſſing over alſo from Cuba towards the Gulph, they may ſometimes fall in with the Florida Kays, which they have hitherto been unacquainted with; and if they have had the misfortune to drive over the Reef, eſpecially in the night time, they would poſſibly meet with ſome damage on the Coral banks. As ſoon therefore as they perceived themſelves on one ſide environed by the numberleſs uninhabited Iſlands, and on the other encloſed within this Reef, which has always been reckoned ſo dangerous, they no doubt might deſpair of ever getting the veſſel extricated from ſuch a labyrinth, and therefore take to their boats. If on the other hand they ſhould fall into the eaſtward among the Bahama Iſlands, though they are ſuppoſed to be better known, the real danger is greater. But it is probable that when the maſters of our Weſt India ſhips, by the peruſal of the charts which accompany theſe directions, have made themſelves a little better acquainted with the coaſt of Florida, they will generally prefer it to the Cuba ſhore.

After coming round Cape Antonio therefore, and getting into the Latitude of 24° N. as has already been mentioned; they may ſafely ſtretch along the Florida Kays, ſteering in while it is day light, and off in the night

night time. They will then generally have a ſtrong current to windward in their favour; and in the winter months when the winds are often northerly, they may poſſibly have a fair wind and ſmooth water all the way to the Gulph.

But here it may be proper to give,

A GENERAL ACCOUNT *of the* CHARTS *of the* TORTUGAS *and* FLORIDA KAYS *or* MARTYRS, *with* REMARKS *concerning thoſe* ISLANDS, *and the* REEF *which ſurrounds them.*

In the firſt place then the Public may be aſſured, that the Charts are from the moſt undoubted authority; that the ſoundings, though uncommonly numerous, have all been actually taken and laid down with the utmoſt care and accuracy†, and many more indeed than could be inſerted in this Chart; for the originals being upon a ſcale of one inch to a mile, are conſequently four times the ſize of the preſent charts. The publiſher has however taken care that the leaſt and greateſt depth of water, as well as all the material intermediate ſoundings have been carefully marked. All the Harbours and places of anchoring, as well as the different paſſes, and the danger wherever there is any, are alſo noted.

The ſoundings marked f are feet, all the reſt are fathoms. The arrows ſhow the flow of the Tides.

The Spaniſh names of the Iſlands, &c. have been retained, as they are generally known to the Engliſh by the ſame titles, tho' ſometimes corrupted.

The Longitudes of the principal Iſlands were aſcertained by repeated obſervations of the eclipſes of Jupiter's Satellites, both by Mr. Gauld and Mr. Payne his Aſſiſtant, as has already been mentioned. The Perſpective Views of the principal Iſlands have been taken with the greateſt care; and no pains or expence has been ſpared in the engraving, or in correcting and comparing them with the originals, which it is hoped will appear on the ſlighteſt inſpection.

† At firſt ſight it may appear ſingular as it really is, that the ſoundings on this chart are all nearly in right lines; but by a moment's reflection we muſt obſerve, that this is the only way that real ſoundings can be taken or laid down. Imagination can eaſily plant ſoundings as the engraver does dots on a ſand bank; but if ever this method ſhould be imitated, we hope it will be with equal fidelity.

Tho' THE TORTUGAS are generally looked upon to be very dangerous, and to a perſon unacquainted with them they undoubtedly are ſo, eſpecially in the night time; yet when they are known, on many occaſions, they may be found both uſeful and convenient. They conſiſt of ten ſmall Iſlands, or Kays, extending E. N. E. and W. S. W. for ten or eleven miles; moſt of them are covered with ſmall buſhes, and may be ſeen at about four leagues diſtance.

They are ſituated about thirty leagues from the neareſt part of the coaſt of Florida, forty from the Iſland of Cuba, and fourteen leagues from the weſternmoſt of the Florida Kays. The South-weſt Kay, which tho' one of the ſmalleſt, is the moſt material to be known lies in Latitude 24° 32′ 30″ about the Longitude of 83° 45′ W. from the Royal Obſervatory of Greenwich; and a Reef of coral rocks runs about a quarter of a mile S. W. from it, upon which the water is diſcoloured. There is a large bank of brown coral rocks, intermixed with white patches of ſand, about five or ſix miles to the weſtward of the Tortugas, upon which there are very irregular ſoundings, from ſix to twelve fathoms. The bottom appears very plainly, and tho it may be alarming to ſtrangers, there is no danger; you will find from 13 to 17 fathoms, between this and the Tortugas. The bank of ſoundings extends only five or ſix leagues to the Southward of the Tortugas, but much farther to the Weſtward, and all the way Northward along the Florida ſhore; but the danger wherever there is any, may eaſily be ſeen from the maſt-head in the day time. However, in paſſing by the Tortugas, it is neceſſary to ſound frequently in the night, between the Latitude of 24° and 25°, and never to ſtand into leſs than 30 or 35 fathoms. The Spaniſh ſhips bound from Vera Cruz to the Havana, make it a conſtant practice to endeavour to ſtrike ſoundings on the Tortuga Bank, and keep in ſoundings till they are paſt the Tortugas; generally coming to an anchor at night, but there is no neceſſity for ſo much caution.

If you are bound to the Eaſtward and meet with a ſtrong eaſterly gale, which is frequent there in the ſummer ſeaſon, you may ſafely come to an anchor, in five or ſix fathoms; about a quarter of a mile off ſhore, under the *Lee* of the long ſandy Iſland, to the northward of the South-weſt Kay. There is good anchorage alſo in ſeveral other places, particularly in a ſmall but ſnug Harbour near Buſh Kay, which is entirely ſheltered from the ſea by a large Reef of rocks, and a flat ſhoal within them, about half a mile broad; the bottom is ſoft clay and mud. This Harbour is quite ſmooth, even in a gale of wind; and in caſe of neceſſity, a veſſel might eaſily be hove down there, as there is three fathoms water cloſe to the bank. There is no drinkable water to be got on any of the Tortugas, except on the northermoſt Iſland; nor is there any fire wood except a few buſhes, which it were a pity to cut down, as they ſerve to diſtinguiſh the Kays at a diſtance; but the Tortugas abound with a variety of ſea birds, turtle and excellent fiſh. There is a broad channel to the Eaſtward of the Tortugas, from ten to

ſeventeen

ſeventeen fathoms depth; but it is by no means adviſeable to be attempted, unleſs you can ſee the Tortugas diſtinctly, and keep within two or three leagues of the Eaſtermoſt Iſland; as there is a coral bank of 12 feet water at the diſtance of five leagues; and farther Eaſtward towards Cayo Marques, there is a very dangerous and extenſive bank of quick ſand, on many parts of which, there is no more than four or five feet water. It is of a remarkable white colour, and may eaſily be ſeen and avoided in the day time.

The weſternmoſt part of that innumerable train of Iſlands, generally called THE FLORIDA KAYS; conſiſts of eight or nine Mangrove Iſlands, which go under the title of Cayo Marques, ſeveral of them are covered with pretty high trees and may be ſeen at a conſiderable diſtance. To the weſtward and N. weſtward, of which lies the large bank of quick-ſand already mentioned; and due South from the Weſtern extremity of this bank, the Weſt end of the General Florida Reef, is ſituated in Latitude 24° 22′; which is nearly the moſt ſoutherly part of this extenſive Reef, that runs parallel to the Kays, and forms a kind of general Bar to the coaſt.

There is a channel between the Reef and the above mentioned bank, and likewiſe all along between it and the Kays, in many places upwards of four miles broad. The Reef at the weſt end is about three miles broad; but the leaſt water on it is five fathoms, with irregular ſoundings to ſeven and eight fathoms. It is all diſcoloured water, generally brown, with patches of white ſand and coral rocks, and the bottom plainly appears. The Reef in general is very ſteep on the South ſide, there being from 20 to 30 fathoms muddy bottom, within about a mile or two of it: and as the outſide of the Reef is no where above ſix or ſeven miles diſtant from the range of Iſlands, you may ſafely in the day time, approach near enough to make the land diſtinctly.

The water in the channel, within the Reef, is all of a white colour; the bottom, is in general fine ſand, mud or clay; and there is pretty good anchorage all along, only taking care not to come into leſs than five fathoms.

To the Weſtward of Cayo Marques, there is from ſeven to ten fathoms in the channel, and 3¼ is the leaſt water on the Reef; abreaſt of Cayo Marques 7½ fathoms ſoft mud, is the deepeſt in the channel, and 3¼ the leaſt water on the Reef.

Juſt to the eaſtward of Cayo Marques, there is a large opening, called by the Spaniards Boca Grande, which is upwards of two leagues in breadth, and has a channel through to the northward of nine or ten feet, but it is not to be recommended to ſtrangers.

Cayo Hueſſo is the firſt Iſland of any conſequence to the Eaſtward of Cayo Marques, at the diſtance of nine leagues. There are a parcel of ſcat-

tered

ttered Mangrove Iſlands between Boca Grande and it, the three ſouthermoſt of which have white ſandy beaches. Cayo Hueſſo (or Key Weſt, as it is corruptly called by the Engliſh) is ſeven miles in length, and has a ſandy beach on the South ſide. The trees are very thick upon it, eſpecially at the Weſt end, round which there is a ſafe and convenient harbour, with a channel of four fathoms into it. You muſt keep within leſs than a cable's length of the North-weſt point, which is remarkable for a ſingle buſhy tree and a turtle crawl; and come to an anchor in 3¼ or 3½ fathoms, about half way between it and a ſmall Mangrove Iſland which lies about a mile to the northward of it. The beſt anchoring ground is neareſt the eaſt bank, for there is ſome ſmall coral near the middle and weſt part of the harbour. This harbour is frequented by the turtlers and wreckers from Providence, and likewiſe by the fiſhing craft from the Havana; who find it convenient on account of a channel through the bank to the northward, in their way to the coaſt of Florida.

The weſternmoſt ſandy Kay on the reef lies three leagues S. S. W. from Cayo Hueſſo. There is a dry patch of rocks on the reef about four miles to the weſtward, and another about two miles to the eaſtward, from thence you have two and three fathoms on the reef for about five miles to the eaſtward of the Kay; but when you bring the weſt end of Cayo Hueſſo to bear about N. N. W. or N. by W. ½ W. there is a fair Channel of four and a half and five fathoms over the Reef: and when you get into ſix and ſeven fathom ſoft mud within the Reef, keep more to the weſtward, obſerving to give the S. W. point of Cayo Hueſſo a birth of about three quarters of a mile, on account of a rocky ſpit that runs off from it.

The Channel within the reef between Boca Grande and Cayo Hueſſo is in general about three miles broad, and the deepeſt water is ſix and ſeven fathoms, fine ſand and clay: there are two or three patches of Coral rocks with two and a half and three fathoms water, nearly in mid channel, lying about S. S. E. from the weſt end of Cayo Hueſſo.

At the Eaſt end of Cayo Hueſſo, there is a ſmall opening called Boca Chica, which leads to an infinite number of ſmall Mangrove Iſlands, but nothing except a canoe can paſs quite through over the ſhoals.

About ſeven miles S. E. from the Eaſt end of Cayo Hueſſo, or S. S. E. from Boca Chica, there are three ſmall ſandy Kays on the reef: between the weſternmoſt and middle one, there is a Channel of four fathoms over the Reef, and another of three fathoms between the middle and eaſternmoſt Kay; but for ten miles to the eaſtward of theſe Kays, the Reef is broad and dangerous, there being in ſome places dry rocks; and in general it is full of ſunken rocks four or ſix feet under water, with crooked Channels of four, ſix and ſeven fathoms between them.

Seven miles to the eaſtward of Boca Chica there is a ſmall Iſland with a remarkable high bluff of trees, which in moſt views appears in the ſhape of a ſaddle. It has an opening at each end into a large ſhallow Bay, bordered with innumerable Mangrove Iſlands to the northward. The general courſe of the chain of Iſlands turns gradually to the northward of Eaſt from Cayo Hueſſo.

At the diſtance of ſeven Leagues from the weſt end of Cayo Hueſſo there are ſeveral large Iſlands covered with pine trees, which continue all the way to Bahia Honda, for the ſpace of four Leagues further on to the eaſtward. Theſe Pine Iſlands are bordered with Mangrove Kays on the ſouth; and there are ſeveral openings quite through to the northward, but they are ſo ſhallow as to be only paſſable in boats and canoes.

Looe Kay (ſo called from His Majeſty's ſhip the Looe being caſt away there) is a ſmall ſandy Iſland on the reef, nine leagues from the weſt end of Cayo Hueſſo, eighteen from Cayo Marques, and thirty-five Leagues to the eaſtward of the Tortugas. The rocks run but a very little out from it, and there is no kind of danger but what may be avoided in the day time. The Reef is very ſteep on the ſouth ſide; for you have twenty fathoms within a mile of the Kay, and 100 fathoms about two Leagues to the ſouthward of it. There is a channel of four and five fathoms over the Reef about a mile to the weſtward of the Kay; but to the eaſtward of it for two or three miles you cannot depend on carrying more than fifteen or ſixteen feet; though farther on to the eaſtward for the diſtance of four or five Leagues, you will have three and a half, and in many places four and five fathoms the leaſt water on the Reef.

We erected a large pole on Looe Kay, and one on the Weſternmoſt ſandy Kay; which, if they remain, may be ſeen at a conſiderable diſtance.

About four miles due north from Looe Kay there is a ſmall Harbour called by the Providence People New Found Harbour, and by the Spaniards Cayovamos; but it is fit for nothing but ſmall craft, as only ſeven or eight feet at moſt can be carried into it.

Bahia Honda lies about ten miles N. E. from Looe Kay in Latitude 24° 35′. It has a large entrance and a fair Channel of four and five fathoms; but when you are in the Harbour it ſhoals to three and a half, three, two and three quarters and two and a half fathoms, and the bottom in general is rather hard rough ground. This place may be eaſily known by three ſmall Iſlands on the weſt ſide of the entrance, and a large Iſland on the eaſt ſide a mile long, with a ſandy beach, remarkable for a number of tall Palmetto cabbage trees; the firſt of the Kind you fall in with, coming from the weſtward.

From

From Bahia Honda to the weſt end of Cayo Vaccas (the next conſiderable Iſland in proceeding to the eaſtward) the diſtance is four Leagues, and the direction of the coaſt turns ſtill more to the northward. There are only a few ſmall Kays between them, the body or thick cluſter of Iſlands ending about Bahia Honda, which makes this almoſt vacant ſpace the more remarkable.

About five miles ſouth from the weſt end of Cayo Vaccas, there is a ſmall ſandy Kay on the reef called by the Spaniards Cayo Sombrero. There are in all ſix Kays on the reef, and as they may ſerve as ſo many good land marks to know exactly where you are, in caſe of falling in with any of them; it will not be improper in this place to recapitulate the ſituation of each of them.

The weſternmoſt, lies three Leagues S. S. W. from Cayo Hueſſo in Latitude 24° 23′ and Longitude 82° 40′ Weſt; the three ſmall Kays off Boca Chica, in Latitude 24° 24′ and the middle one in Longitude 82° 25′; Looe Kay in 24° 30′ Latitude and 82° 11′ Weſt Longitude, and Cayo Sombrero in Latitude 24° 34′ 30″ and Longitude 81° 55′ Weſt.

As we have thus given a general account of the Reef and the Chain of Iſlands as far as Cayo Vaccas, we ſhall now return to the channel between them. It was obſerved before, that there were two or three ſmall coral patches with two and a half or three fathoms water, lying about two and a half or three miles S. S. E. from the weſt end of Cayo Hueſſo; with five and ſix fathoms all round them, being near the middle of the Channel, which is there about five miles broad. It continues to be upwards of four miles in breadth till you are paſt the three Kays on the Reef off Boca Chica; when the Reef grows broader and the Channel narrower, with four or five fathoms, the deepeſt water. In the narroweſt part, which is about five or ſix miles to the weſtward of Looe Kay, the Channel is only a mile and a half broad, and three and a quarter fathoms the deepeſt water. But as you approach Looe Kay the Channel grows broader again, and deepens to five, ſix and ſeven fathoms mud and clay. Abreaſt of Bahia Honda the Channel is about three miles broad with the ſame ſoundings, and continues about the ſame breadth as far as Cayo Vaccas.

There are two general remarks concerning this Channel to the weſtward of Cayo Vaccas; firſt, that you will have three fathoms all the way within a mile of the Kays, and that you will always find the deepeſt water neareſt the Reef. Secondly, the uſual method of navigation in the Channel between the Reef and the Kays, is always to come to an anchor in the night, where it is clear ground; but where there is any coral, it is neceſſary ſometimes to buoy up the cables to prevent their being rubbed on it.

Cayo Vaccas, or rather the thick range of Iſlands that go by that name, extends about N. E. by E. for the ſpace of five Leagues, the Eaſternmoſt of which is called Duck Kay. Theſe Iſlands are covered with trees of various ſorts, ſuch as Mangrove, Button-wood, Palmetto trees, &c.

From Duck Kay to Kay Bivoras the diſtance is about five miles, and there are three ſmall Mangrove Iſlands between them. Kay Bivoras is five miles long with a white ſandy beach, and is remarkable for a high hummock of trees at the weſt end.

From the eaſt end of Bivoras to the weſt end of Old Matacumbé the diſtance is three miles and a half: Matacumbé is four miles long in a N. E. direction. The trees at the north end are very high and level at the top, appearing at a diſtance like table land. There is a ſafe Harbour near the north end of Matacumbé, where veſſels not drawing above ſeven or eight feet may go in and anchor in three fathoms ſecure from all winds; but you muſt go round the eaſt ſide of a ſmall Iſland called Indian Kay or Matance; keeping about a cable's length off ſhore; and you will have nine and ten feet for ſome diſtance, till you get into two and three fathoms in a broad Channel which runs round towards the north end of Matacumbé, where there is a large turtle crawl. The Channel plainly ſhews itſelf by the white ſhallow banks on each ſide, where there is only two or three feet water. Indian Kay lies about a mile to the eaſtward of Matacumbé, and it is all a ſhoal between them. To the north-eaſt and northward of Matacumbé the Mangrove Iſlands begin again, and continue to the main land about ſix or ſeven Leagues diſtant; and all the way to the eaſtward within Cayo Largo, &c. But that large ſpace is almoſt one continued flat, with ſome ſmall Channels of five or ſix feet water.

The Reef from Cayo Sombrero is in general very broken ground as far as the weſt end of Matacumbé; there being many patches of coral rocks, with ſix and eight feet water; and others where the rocks riſe to the ſurface, particularly ſome ſpots off the eaſt end of Cayo Vaccas, about ſeven or eight miles off ſhore. There are likewiſe ſome large patches of eight or nine feet off the middle of Kay Bivoras, and another large rocky ſhoal of eight and ten feet off the weſt end of Matacumbé, at the diſtance of about five miles; but there are Channels of at leaſt three fathoms over ſeveral parts of the Reef between them.

There are likewiſe ſome dangerous ſhoals of coral rocks in the Channel between the Reef and the S. W. part of Cayo Vaccas, the largeſt of which has only four feet water on it; and lies four miles N. E. from Cayo Sombrero, and about two miles off Kay Vaccas. There are ſeveral other ſmall patches of five and ſixf eet to the N. E. of it; but in the day time all theſe ſhoals

appear very plainly at a diſtance, being of a brown colour; and as it is unſafe running in the night, it is always neceſſary to come to an anchor through the whole extent of the Channel.

From Cayo Vaccas ſhoals, the Channel ſtill continues to be two or three miles broad to the eaſtward of Matacumbé: four fathoms is the deepeſt water, but two and a half and three fathoms is the general depth along Kay Bivoras at two or three miles diſtance.

New Matacumbé lies upwards of two miles to the north eaſtward of Old Matacumbé, and is four miles long in a N. E. direction. It is covered with thick tall trees. At the eaſt end of it there is an opening about half a mile wide, with a ſmall Mangrove Iſland in the middle; then a Mangrove Iſland near two miles long, which is ſeparated by a narrow Channel from a large Iſland near ſeven miles in length, covered with high trees of various kinds, where there is ſome Mahogany and Madeira-wood of a very fine grain. This, which we have taken the liberty of calling Long Iſland and Cayo Largo, appear at a diſtance like one continued track of land, tho' there is a narrow Channel between them.

Kay Tavernier (or Cayo Tobano, as it is called by the Spaniards) is a ſmall Iſland about two miles from the S. W. end of Cayo Largo, and five Leagues N. E. from Old Matacumbé. There is very good anchorage a little to the northward of it for ſuch veſſels as frequent the coaſt.

Cayo Rodrigues a pretty large Mangrove Iſland, (without any firm ground, the roots of the trees being conſtantly overflowed) likewiſe lies off Cayo Largo, at the diſtance of five miles N. E. by N. ½ N. from Tavernier. It is in Latitude 25° North, and Longitude 81° 17′ Weſt. From hence the coaſt of Cayo Largo, which here appears like main land, turns quickly N. N. E. and N. by E. to north; for which reaſon Cape Florida might be reckoned ſomewhere hereabouts; tho' there is no particular point of land known by that name to the People of Providence, who ſeem to be beſt acquainted with thoſe parts.

There are no ſhoals on the Reef oppoſite to Old Matacumbé, except that off the S. W. end, above mentioned; but there is a large patch of Coral Rocks bearing E. S. E. ſix or ſeven miles from the north end of Old Matacumbé, on which there is only four or five feet water. The Reef comes within leſs than three miles of Rodrigues, where you have only ſeven and eight feet; and three fathoms is generally the deepeſt water in the Channel all along.

From this large ſhoal off Rodrigues, which forms a kind of elbow, the patches of Coral Rocks are ſaid to increaſe in number and dimenſions, forming ſeveral Reefs, with ſmall Channels of deep water through them.

Of

Of the WATERING PLACES, &c.

We have hitherto purpoſely omitted mentioning where freſh water may be found among thoſe Kays, to avoid confuſion, and to bring into one point of view ſo neceſſary an article for thoſe who may have the misfortune to be ſhipwrecked, or otherwiſe be in want of it. There is no good water on the Tortugas, nor any where till you come to the weſt end of Cayo Hueſſo, where there are ſeveral wells dug in the ſand. The water there is pretty good, eſpecially after rain, but ſometimes you will find it a little brackiſh; in which caſe the beſt way is to dig a new well, which is ſoon done, and you will find the water much better than what has been ſtanding in the old wells. At Bahia Honda there is very good freſh water to be got in the ſame manner: and on the ſouth ſide of Cayo Vaccas about eight miles from the weſt end, there are likewiſe freſh water wells; on the eaſt ſide of a narrow opening, with a ſandy Beach on each ſide of it.

Theſe are the only places among the Kays (at leaſt as far as we know) where freſh water is to be got by wells; but there are ſeveral freſh water ſwamps, and natural reſervoirs among the rocks; particularly a large one on the north ſide of Kay Vaccas, about ſix miles from the weſt end, where the water never fails. It lies in a valley about 100 yards from the Beach, a little to the weſtward of three Mangrove Iſlands. There is likewiſe freſh water to be got ſometimes among the rocks at the weſt end of Kay Vaccas, and the ſmall Iſlands to the Weſtward of it; beſides, at the weſt end of Duck Kay, and ſeveral other places.

It is neceſſary here to obſerve, that juſt within the ſandy beach, the Iſlands are generally bordered with a Mangrove Swamp of about a hundred yards broad; beyond which the ground riſes higher and is generally of a rocky bottom, where you will often find freſh water ponds or natural tanks, which receive and retain the rain water†.

But the principal watering place is at the north end of old Matacumbé, where there is a natural well in a rock about four feet deep; which is conſtantly

† The ſmall Mangrove Iſlands which are numerous, have very little ſolid ground; but whenever a Mangrove buſh takes root in the ſalt water, it ſoon forms an Iſland; and many cluſters of ſmall Iſlands have evidently been formed in this manner upon the coral banks.

full of excellent water, being a kind of ſpring. On this and ſome other accounts Matacumbé is much frequented by the wreckers and turtlers; but there is no freſh water for many Leagues to the Eaſt and North-eaſtward thereof.

From theſe obſervations, it will appear, that there is no great difficulty in finding freſh water on moſt of the Iſlands; and there is fire-wood in plenty upon all of them, except the Tortugas. Beſides other vegetables, the cabbage tree which abounds on ſome of the Iſlands, affords a wholſome food for man: abundance of birds of various kinds, variety of the fineſt fiſh and ſome turtle, are to be found all along the coaſt; and from Cayo Hueſſo Eaſtward, there are deer. But beſides all theſe, among the roots of the Mangroves and about every old log or piece of rotton wood, there are ſuch quantities of the largeſt cray-fiſh, that a boat may be loaded with them in a few hours.

In future, therefore, if any of our homeward bound ſhips ſhould unfortunately be run aground upon one of thoſe Iſlands, or in ſuch a ſituation that the boats can reach the ſhore; as the people run no riſque of being ſtarved, it is to be hoped, they will never ſuppoſe themſelves to be under the neceſſity of abandoning their ſhips: (ſee page 10.) For the little veſſels from Providence are conſtantly plying about thoſe Iſlands, eſpecially after a ſtorm; when they make lawful prize of all ſuch as have been thus deſerted; but they give every kind of aſſiſtance to thoſe who faithfully attend to the intereſt of their owners, and remain with their ſhips till they are relieved.

To prevent ſuch accidents however in future, the preſent Charts are now given to the Public: we *ſay given*, for the price that has been put upon this neceſſary work, never could have defrayed the expence thereof; had not the Right Honourable the Lords Commiſſioners of the Admiralty, His Royal Highneſs the Duke of Clarence; and ſeveral Gentlemen of the Iſland of Jamaica, who knew the value of theſe charts, generouſly aided by ſubſcription the publication thereof.

☞ *Note*, beſides the above Directions therefore, we beg leave to adviſe the Captains and Maſters of veſſels, who may make uſe of thoſe charts; firſt to look them carefully over at their leiſure, and compare them with the directions; and if hereafter, they ſhould ever be drove upon the Florida Reef, they will ſee that the ſafeſt method is, to get over it as well as they can; and come to anchor in the Channel between the Reef and the Iſlands, which they will find is not a bad Road-ſtead. If it is in the night, their ſoundings muſt direct them; but in the day-time, the kind of bottom may be ſeen, and the danger if there is any, avoided. When the ſtorm is over, by conſulting the Charts and Perſpective-views of the Iſlands, they can ſcarce be at a loſs to find out what part of the coaſt they have fallen in with; and upon comparing theſe Directions with the Charts, may with great ſafety in fair weather, conduct their veſſel along the channel to ſome convenient place, of which there

there are many, ſufficient for allowing them to reconduct her carefully over the Reef, and ſo proceed on their voyage*.

We have now only to add, that from Cayo Largo almoſt to Beſcaino Iſle, in Latitude 25° 40′, the coaſt runs a little to the Eaſtward of North; and from thence to Cape Canaveral, about the Latitude of 28° 20′, it is generally due North. But after paſſing the Latitude of 25° 30′, having a good offing, you may ſteer N. ½ E. per compaſs, always making the weather ſhore before night; which you generally will find to be on the Bahama ſide, except in the winter months. Keep under an eaſy ſail and ſound frequently; you will then often find the veſſel gliding ſmoothly along in the direction of the Florida ſtream, till you come to Latitude 28° or poſſibly to 28° 30′; when you may haul to the Eaſtward, and the longer you can keep in the courſe of this ſtream the better.

It is neceſſary here to obſerve that the variation, which at the Tortugas in 1774 and 1775, was about 7° E. decreaſes as you go Eaſtward to 6°; and to the northward it alſo continues to decreaſe to 5° about Cape Canaveral.

The *Dip* or inclination of the Magnetic Needle, was likewiſe taken in the courſe of theſe ſurveys, by an inſtrument of a peculiar conſtruction†, but as this is not ſo neceſſary for navigation, it is here omitted.

Of the WINDS *and* CURRENTS.

It is well known, that in the Torrid Zone and for ſeveral degrees to the northward and ſouthward thereof, the winds are generally from the Eaſt all the year round.

Towards the northern limits of THE TRADE WINDS, as they are generally called, which on the American ſide of the Atlantic ocean is from Latitude 30° to 31° or more; theſe winds are often to the northward of Eaſt; and in the winter months when the ſun has a conſiderable ſouth declination, they are ſometimes ſtill more to the northward. In the ſummer ſeaſon the trade winds are to the ſouthward of Eaſt; but generally to the northward of theſe limits, on the coaſt of North America, the winds are often weſterly.

* N. B. The Underwriters will undoubtedly profit more by this Publication, than any other ſet of men whatever; provided they take care, that every Weſt India veſſel they inſure, ſhall have a ſet of Mr. Gauld's charts on board.

† See Letter from Dr. Lorimer to Sir John Pringle, Phil. Tranſactions, Vol. LXV.

Theſe

Theſe are the general Rules*; but it muſt be obſerved that there are many exceptions, which nothing but experience and accurate obſervations can ever account for.

The general doctrine OF THE TIDES, as explained by Sir Iſaac Newton, is well known. The courſe of the waters in the great oceans, correſponding to the motions of the moon, is from Eaſt to Weſt; and to this may be added, that the great currents of the atmoſphere, within and near the Torrid Zone, generally hold the ſame courſe, as has already been mentioned. From theſe, and poſſibly other cauſes combined, the waters of the Atlantic are forced as it were againſt the coaſts of America, and the Iſlands of the Weſt Indies, with great rapidity. The greateſt velocity of this body of water being towards the Equator, where it falls upon the continent of America; it is then turned in a north weſterly courſe along that coaſt, till it gets into the Gulf of Mexico, and is there as it were accumulated to its greateſt height. From its nature as a fluid, which may be conſidered as incompreſſible, it muſt therefore overflow where it meets with the leaſt reſiſtance; and between the Iſland of Cuba and the main land, it forms that remarkable CURRENT called *the Gulph of Florida*. When it gets paſt that elbow, which is commonly termed Cape Florida, it is oppoſed by the Iſlands and banks of Bahama; and meeting with the leaſt reſiſtance to the northward, it proceeds along the coaſt of America, in a north and north eaſterly direction; turning more and more to the Eaſtward, till it gets near to the Nantucket ſhoals; or as ſome affirm, almoſt to the banks of Newfoundland; when it takes its courſe to the ſouth Eaſtward, and loſes itſelf by degrees in the Atlantic, ſomewhere about the weſtern Iſlands.

The Gulph of Mexico may in fact be conſidered as one great whirlpool†. For the waters ruſhing in with great velocity between Cape Antonio and Cape Catoch; and being confined on all ſides by the land, except the paſſage between the Iſland of Cuba and the Florida ſhore, as has already been mentioned—this great body of water is therefore forced into a kind of circular motion; which appears the more evident, as all the Iſlands, promontories and points of land on the coaſt of the Gulph of Mexico, have deep water on the one ſide, and on the oppoſite a ſhallow ſpit or bank of ſand runs out to a conſiderable diſtance.

A ſouth-eaſt gale always drives an extraordinary body of water into the Gulph of Mexico*, and a North or N. E. wind retards both its ingreſs and

* See Dr. Halley's Diſſertation in the Philoſophical Tranſactions, &c.

† See Letter from Dr. Lorimer, 21ſt of April, 1769. Tranſactions of the American Phil. Society held at Philadelphia, Vol. I. p. 250.

egreſs.

egreſs. After ſuch gales therefore, the Currents and Counter-currents in and near to the Gulph of Florida, muſt run with the greateſt rapidity; and when the breezes are regular and gentle, theſe Currents run with leſs force or violence.

As there is not room ſufficient between the Iſland of Cuba and Florida, for all that body of water which is often accumulated in the great Gulph of Mexico, ſo ſpeedily to diſcharge itſelf; it is in ſeveral places forced round in a kind of Eddy or Counter-current, as may generally be met with among the Colorados, and upon all that part of the coaſt of Cuba to the weſtward of Bahia Honda. Upon the Florida Reef and in the channel between that Reef and the Iſlands, there is alſo a Counter-current from the Eaſtward†.

It is not neceſſary however for us to enter more minutely into the courſes of theſe Currents and Counter-currents; experience and judicious obſervations muſt direct the ſkilful mariner. But it may be proper juſt to obſerve, that whenever any point of land projects beyond the general line of the coaſt, or where the ſhores approach nearer to each other, the Central-current is confined, and a Counter-current on one or both ſides is produced in-ſhore.

The Counter-current on the coaſt of Eaſt Florida may be of uſe to ſmall veſſels in paſſing from St. Auguſtin to the Havana or into the Gulph of Mexico; which on that account keep very near the ſhore, or within the Florida Reef. The ſame advantages may no doubt be taken of the Counter-currents on the Bahama and Cuba ſide of the Gulph, by thoſe who are well acquainted with them. But in the navigation from the Weſt-Indies, the great general current, is always in their favor, if they only take the proper means of profiting by it.

They ſhould therefore, whenever the wind permits, keep in the direct courſe of that ſtream, of which ſome general account, has already been given; (ſee p. 22) and to this we beg leave to add—

* During a S. E. gale or ſtorm, the waters in the bays and rivers on the coaſt of W. Florida, have been known to riſe ſeven feet perpendicular; veſſels of conſiderable burthen have been drove in amongſt the pine trees at ſome diſtance from the ſhore, and other damages done, &c.

† On the Tortuga Banks, and among the Florida Kays, THE TIDES are pretty regular, running from four to ſix and ſometimes eight hours. The flood, apparently coming from this Counter-current, runs into all the channels between the Iſlands at the rate of one and a half or two miles an hour; and to the northward of the Iſlands it turns again to Eaſt and ſouth eaſtward, filling up all the ſhallow Bays and Lagoons on that ſide, as is ſhown by the arrows on the chart.

On the days of the full and change of the moon, it is high water at the Tortugas and among the Florida Kays, between eight and nine in the morning. The tide riſes only about three feet, or four feet at ſpring tides on all that coaſt.

Firſt, that the breadth of this remarkable ſtream or current, when it gets to the northward of the Bahama banks, from Latitude 28° to 30° is about ſeventeen or eighteen Leagues: in Latitude 33° and oppoſite to Charleſtown, South Carolina, it is about twenty Leagues broad, and the inner edge of the ſtream is nearly the ſame diſtance from the ſhore: off Cape Hatteras, it is twenty-five Leagues broad; and in the Latitude of 37° it is about thirty-three Leagues in breadth.

Secondly, as this ſtream proceeds Northward and Eaſtward, increaſing its breadth and its diſtance from the American coaſt, it gradually loſes its velocity and its heat. For oppoſite to Charleſtown, it runs at the rate of three miles an hour or more; off Cape Hatteras, two and a half miles, and in Latitude 37° north, at a medium about two miles only.

Tho' the above makes the velocity of the Gulph-ſtream leſs than what we have it from the very reſpectible authority of Dr. Franklin; yet we have thought proper to mention it in this Pamphlet, as taken from the obſervations of a Navy Officer; who beſides his experience in cruiſing laſt war on the coaſt of North America, had performed twenty-four voyages in trading veſſels, to and from that country and the Weſt-Indies, and had paid particular attention to this ſubject.

As the courſe of the Gulph-ſtream has it ſeems been engraved on the Chart of the Atlantic, which is ſold by Meſſrs. Mount and Page, Tower-Hill; and likewiſe publiſhed, we underſtand, in a Pamphlet with Dr. Franklin's Maritime obſervations, &c. it is highly proper that all the Captains and Maſters of veſſels employed in the Weſt-India navigation, ſhould be provided with ſuch Publications.

In the mean time we have farther to obſerve, that the heat of the water, in the Gulph-ſtream on the American coaſt, is generally five or ſix degrees of Farenheit's Thermometer, or ſometimes more, than that of the Atlantic Ocean*. A proper Thermometer ſhould therefore be provided, for the purpoſe of knowing by it, when they are or are not in the Stream. Upon the edge of the Gulph-ſtream, eſpecially in fine weather, there are great ripplings; and Dr. Franklin mentions, that the water thereof does not ſparkle in the night; but in the day-time the appearance of the Gulph-weed is a ſign that you are within the ſtream.

* See Dr. Blagden's Paper on that ſubject in the Phil. Tranſactions, Vol. LXXI, Anno 1781.

POSTSCRIPT.

IT was Mr. GAULD's intention, had it not been for the late *unhappy war*, to have continued his ſurvey along the coaſt of Eaſt Florida, from Cayo Largo to Cape Canaveral; to have aſcertained the ſituation of that Cape and the contiguous Shoals with preciſion; and then to have paſſed over to the Bahamas, where an accurate ſurvey of the numerous Iſlands and Shoals on that ſide of the Gulph is to this day very much wanted.

But from the year 1776 the American Privateers were ſo numerous on that part of the coaſt, that no work of the kind could with any degree of ſafety or propriety be carried on there. Mr. Gauld therefore reſolved, firſt to complete his ſurveys to the weſtward on the Gulph of Mexico; and then took an opportunity in 1777, of continuing the courſe of that Coaſt for near a hundred Leagues to the weſtward of the great river Miſſiſſippi, which he found to be very different from any thing that has hitherto been publiſhed.

In 1778, the Americans ſent ſome of their plundering parties down the Miſſiſſippi, to diſturb the Loyal Inhabitants of Weſt Florida, as has already been mentioned; and the houſe of Bourbon having about that time vainly imagined, that the lucky moment to cruſh effectually the power of Britain both by Sea and Land was juſt at hand: Don Bernardo de Galves, by the influence of his Uncle who was then a favourite at the Court of Spain, and a creature of France, was appointed Governor of Louiſiana and Brigadier General in the Spaniſh army. This Gentleman was therefore very aſſiduous in furniſhing them with a number of thoſe pretended complaints againſt the Britiſh Nation, which will for ever diſgrace the Spaniſh Manifeſto of 1779: he not only encouraged but even ſecretly aſſiſted the Americans in their unſucceſsful attacks upon Weſt Florida; and whenever they were repulſed he received and protected them, till the time ſhould arrive when he could openly join them in their enterpriſes againſt the mother country; as at ſome future period, now poſſibly not at a great diſtance, they will no doubt return the compliment to his nation, tho' General Galves has not lived to witneſs the event.

If the pen of a ſecond Cervantes could be found, to deſcribe the Quixotiſm of this DON *Bernardo de Galves*, during the three campaigns he was employed in the reduction of Weſt Florida (ſee page 3) it would equal if not exceed the Adventures even of the renowned Knight of La Mancha himſelf; and had Governor Galves been rewarded with the title of Vice-Roy of the Lake and Iſland of Barataria, which is ſituated in the neighbourhood

of New Orleans, it would have been a recompence ſufficient for all his mighty conqueſts! But we ſhall here only take the liberty to mention the manner that the laſt Spaniſh war was announced in that quarter of the Globe, as it has ſome little relation to our preſent ſubject.

While the American parties above mentioned were ſculking about New Orleans, an armed ſloop which uſed to be employed on the ſurveying ſervice was ſent into the Lake Pontchartrain, under the command of Lieutenant John Payne who had been Mr. Gauld's aſſiſtant; in order to prevent the Americans from coming over to plunder the defenceleſs Planters on the Britiſh ſide of the Lakes. About this time a Ship-maſter of the name of Pickles, who had been intruſted with a veſſel and cargo from London to the Britiſh ſettlements in Weſt Florida and on the river Miſſiſſippi, had diſpoſed of the whole concern, but not for the benefit of the owners as is believed. This fellow got another veſſel, manned, armed, and purpouſly fitted out at New Orleans; with which he entered Lake Pontchartrain under Britiſh colours, hailed Mr. Payne with whom he had been acquainted; and pretending to be come from Penſacola with proviſions, they run along ſide; hoiſted the American ſtripes, and at the ſame inſtant poured a volley of ſmall arms into the veſſel, by which the Lieutenant was killed and ſeveral of the men dangerouſly wounded.

Governor Galves juſt before this, both by himſelf and his principal Officers, had made many public declarations of the very ſincere and cordial friendſhip which then *happily* ſubſiſted between the Spaniſh Nation and Great Britain; of which he pretended to have had very recent accounts, and offered to ſhew his own perſonal regard by ſome ridiculous ceremonies. But in the meantime, *His Excellency* had collected all the forces of Louiſiana, Regulars, Militia, Indians and Negroes, in all about 2200 men; in order to attack the defenceleſs Britiſh out poſts on the Miſſiſſippi, while Pickles and the Americans had entered the Lakes. This was the beginning of General Galves's *Conqueſts*, which have already been noticed; but the fate of Captain Pickles was at laſt ſome thing ſingular, and ſhould therefore be alſo mentioned. About four years after he had thus treacherouſly killed Mr. Payne, as ſome ſay with his own hand; he was in a manner equally baſe, moſt barbarouſly butchered at Philadelphia by a Spaniſh, or as others ſay a Portugueze ſailor, in the ſervice of the American States.

But let us turn from ſuch horrid and abominable ſpectacles; and in a few words conclude our account of the man, who would not have deceived even his enemies if he ever had any, for the wealth of Mexico, or for all the titles that the greateſt Monarchs could beſtow.

After

After the ſiege of Penſacola, Mr. Gauld was carried as a priſoner of war to the Havana, along with the remains of the few Britiſh forces, who had defended that poſt with ſuch bravery. From the Havana they were conveyed to New York agreable to the articles of capitulation; and from New York Mr. Gauld returned to England. But from the nature of the climate and the fatigue of the ſervices he had been ſo long employed upon, his health and conſtitution having been much impaired; in a few months after his arrival in London, *he departed this life*, and was interred in the burying ground of the Chapel in Tottenham Court Road, with the following inſcription upon a plain piece of Portland ſtone.

In memory of GEORGE GAULD, A. M.

Surveyor of the Coaſts of Florida, &c.

Who was born at Ardbrack in the pariſh of Botriphny, Bamffſhire, North Britain; and educated at King's College, Aberdeen.

A man of real abilities without oſtentation,
A ſincere friend without flattery,
And religious without hypocriſy or ſuperſtition.

He died at London the 8th June 1782,
Aged 50 years.

Pſalm XXX. *verſe* 37.

Mark the perfect man, and behold the upright:
for the end of that man is peace.

F I N I S.